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DISCLOSURE TEXT:

- This article describes a system used to transmit messages between two different E-mail Systems. The E-mail systems are known as PROfessional OFFice System (PROFS*) and Information Exchange (IE) and both run on large IBM mainframes.

- The IBM Information Network (IN) has a large number of both PROFS and IE users. It further has a large number of customer systems attached to its network which run PROFS on their internal systems. A typical user does not use both PROFS and IE but would like to be able to communicate with users of the other E-mail systems for purposes of exchanging messages and business documents. Further, users on customer PROFS systems would like to easily be able to communicate with PROFS users on other systems (available software supported this function but the administration of interconnection of

large numbers of customer systems was cumbersome). The sending of messages between the E-Mail systems should be as easy as possible to users.

- The solution to this problem that was implemented at IBM IN was the development of a gateway function between the E-Mail systems that made the 'other' E-Mail system appear to be part of the users' E-Mail system. This implementation, which was called the "Message Handling System" (MHS), exhibited the following unique characteristics:

- o Users of each E-Mail system communicated as if the destination of their messages was within their own E-Mail system. This eliminates the need for user education and does not place any constraints on messages that are not inherent in their existing E-Mail system.
- o Users of the E-Mail Gateway are known outside their own E-Mail system by an eight character identification that is assigned by an automated enrollment function built into the gateway. To register to the gateway the end user need only send an E-Mail message to user "REGISTER".
- o Messages sent between E-Mail Systems appear to the receiver as having originated from a user within their own E-Mail system. This allows existing reply and acknowledgement functions of the users E-Mail system to function normally. Messages directed back to the sender of a message through the E-Mail Gateway are directed back through the gateway and sent to the originator of the message. The programming necessary to fake the source of files sent to PROFS users was originally developed for the IES-Gateway project at the IBM In-

formation Network.

o Customer PROFS systems need not be predefined to each other to

allow the sending of messages between them. They only need be

defined and connected to the Information Network MHS RSCS machine.

- The MHS Gateway is implemented using four service machines

running under the VM operating system. See the figure for a diagram

of how messages flow through the system. The service machines and

their functions are as follows:

o Mailman: This service machine performs the receiving/re-

formatting/sending of user's messages. PROFS messages are

transferred to this machine from the inactive RSCS link to which

PROFS end users send messages (it appears to them as another PROFS*

system). Messages from IE are received via IUCV from the LACEAPI

service machine. The messages are then reformatted as appropriate

for the destination system and sent. IE-bound messages are sent via

IUCV to the LACEAPI service machine while PROFS-bound messages are

sent via RSCS.

In either case the messages that are transmitted are identified as having come from the senders MHS id at the gateway.

o Register: This machine processes registration requests sent to

it via either RSCS reader files or messages received from the LACEAPI

service machine via IUCV. The assignment of a MHS id is done by IUCV

communication with the directory service machine. A registration

confirmation message is built and sent to the end user by the

register machine.

o Directory Services: This machine maintains the directory of

end-user account/node userid's and MHS id's. The Mailman

and Register

machines communicate with it using IUCV for the assignment and

conversion of MHS id's.

o LACEAPI: This machine handles the VTAM Logical Unit

6.1

communication with Information Exchange. The Mailman and Register

machines communicate with it using IUCV.

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